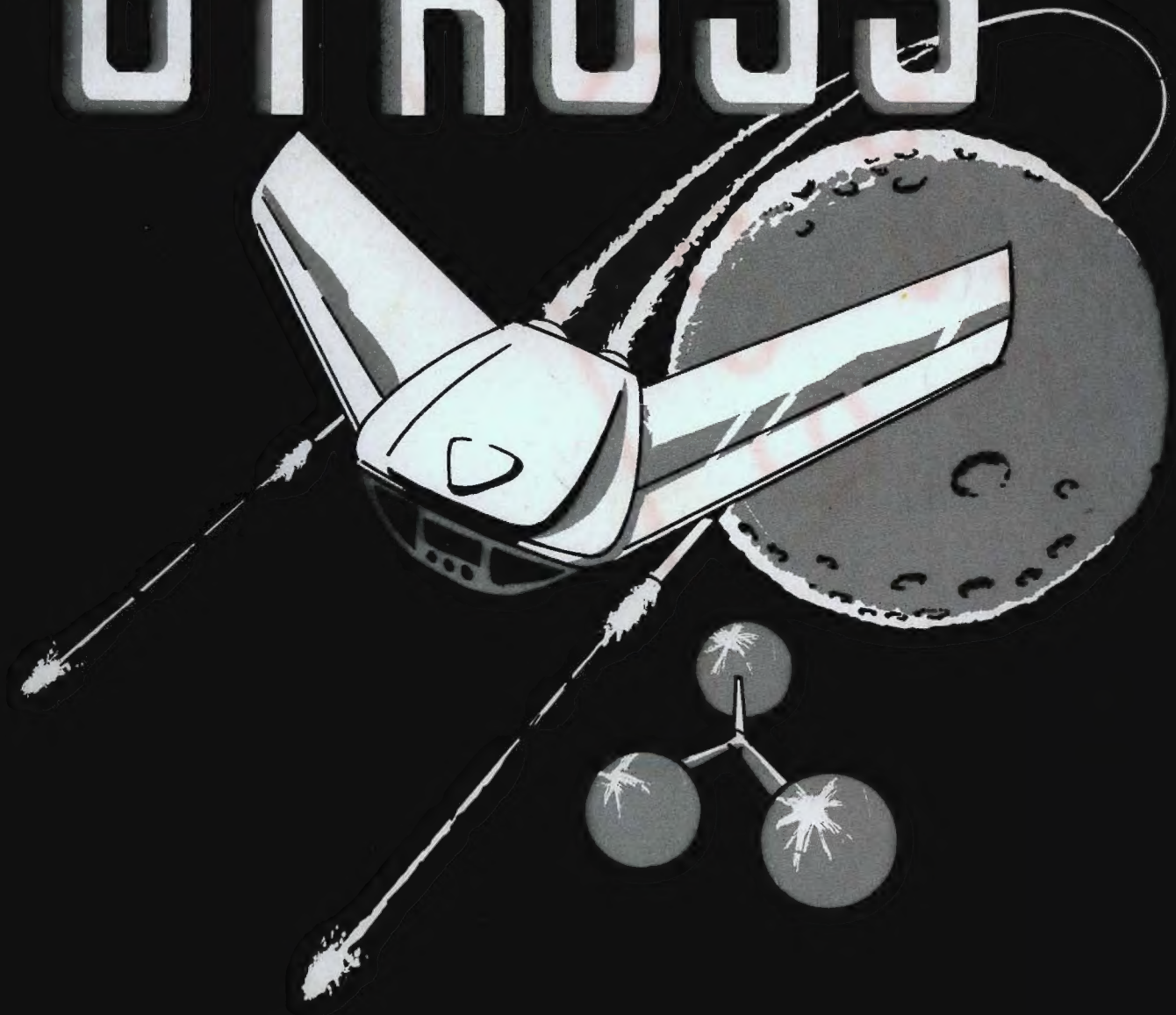


centuri inc.
MANUAL NO. 901-2162

GYRUSS[®]



SERVICE MANUAL

GYRAUSS

CENTURI, INC.
245 W. 74th PLACE
HIALEAH, FLA. 33014

CUSTOMER SERVICE:

TEL. # (305) 558-5200 (IN FLORIDA)

TEL. # (800) 327-7710 (OUTSIDE FLORIDA)

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GYRUSS
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USER INFORMATION - F.C.C.

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY, AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION, IT HAS NOT BEEN TESTED FOR COMPLIANCE PURSUANT TO SUBPART J OF PART 15 OF F.C.C. RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE, THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

INTRODUCTION

GYRUSS IS A MICROPROCESSOR BASED COIN-OPERATED ELECTRONIC GAME, THAT MAKES EXTENSIVE USE OF DIGITAL INTERGRATED CIRCUITRY AND TELEVISION MONITOR CONCEPTS. THIS MANUAL IS DESIGNED FOR THE USE OF MAINTENANCE TECHNICIANS WHO POSSES A GENERAL WORKING KNOWLEDGE OF SOLID-STATE CIRCUITRY, AND VIDEO MONITOR THEORY. ANY INDIVIDUAL NOT KNOWLEDGEABLE IN THESE AREAS SHOULD NOT ATTEMPT REPAIR OF THE ELECTRONIC PORTIONS OF THE GAME.

IN ADDITION TO THIS MANUAL AND TRAINING IN ELECTRONICS, TROUBLESHOOTING AND REPAIR WILL BE FACILITATED BY ACCESS TO GENERAL-TYPE HANDTOOLS, A MULTIMETER, A 50 OR 100 Mhz OSCILLOSCOPE AND A LOGIC PROBE WOULD BE HELPFUL.

TECHNICAL ASSISTANCE IS AVAILABLE BY CALLING (305) 558-5200. QUESTIONS OR COMMENTS CONCERNING GYRUSS OR ANY OF OUR GAMES ARE WELCOME AND SHOULD BE DIRECTED TO:

CENTURI, INC.
CUSTOMER SERVICE DEPARTMENT
#800-327-7710 (OUTSIDE THE STATE OF FL.)
(305) 556-5888 (IN FLORIDA)

NOTES

NEVER REPLACE ANY COMPONENTS WITH ANYTHING OTHER THAN THE EXACT REPLACEMENT PARTS.

NEVER REMOVE CIRCUIT BOARD CONNECTIONS WHILE POWER IS ON.

DO NOT REPLACE THE FUSE WITH ANYTHING OTHER THAN THE PROPER VALUE. A BLOWN FUSE INDICATES AN OVERLOAD CONDITION WITHIN THE GAME. REPLACING THE FUSE WITH A HIGHER VALUE CAN CAUSE SEVERE DAMAGE TO INTERNAL COMPONENTS IF AN OVERLOAD OCCURS.

ALWAYS CONSULT THE MANUAL BEFORE ATTEMPTING REPAIRS.

GYRUSS GAME PLAYING INSTRUCTIONS

Object Of Game;

Fly through the universe to reach earth.

Playing Instructions:

1. Fly spaceship around the circle orbit.
2. Fire to destroy enemy formations and alien objects appearing on screen.
3. Spaceships is destroyed when hit by enemies, bullets, satellites, meteors and electronic wave bands.
4. Double firepower for destroying the middle pink warping satellite.

"Chance Stage"

Destroy all enemy formations.

Enemies can not destroy spaceship.

Super Bonus

Destroy all four enemy formations.

GYRUSS

PLAY INSTRUCTION

*Fly your plane along the circle orbit using the 8-way joystick.

*Shoot the enemy formation flying from the depth of the screen.
(Some enemy planes appear from outside of the screen at higher Phases.)

*Surviving enemy planes standby in the depth of the screen.
After four enemy formations have shown up, all the surviving enemy planes get united and attack on the player.

*The last two enemy planes try to escape. Shoot them quickly for 1000 points each.

*Destroy the three warping enemy satellites:

500 points	for the 1st one
1000	- - - 2nd one
1500	- - - 3rd one

*By destroying the center satellite (pink color) of the three, the player gets extra power and can shoot two bullets at one press of the shooting button. After the player has extra power, 1000, 1500 and 2000 points can be earned respectively for the first, second and third warping satellites.

*At higher phases, meteors appear which cannot be destroyed, and pairs of other satellites which radiate electromagnetic waves. The player can destroy the satellites for 200 points each.

*At the "Chance Stages," the enemies cannot defeat the player. 100 points can be earned by shooting one enemy plane. Destroy all the enemy planes in a formation for Bonus Points. The third phase and every fourth phase on are the Chance Stages. Bonus Points on each stage are as follows:

The 3rd phase	:	1000 points
7th	:	1500 points
11th	:	2000 points
15th	:	2500 points
19th and on	:	3000 points

Special Bonus of 10,000 points are awarded, (depending on Bonus point dip switch setting), by wiping out all the four formations.

OPTIONAL DIP SWITCH SETTINGS

1. Dip Switch No.1 (8P Dip Switch)

Credits

Coin	Plays	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1	1	Off	Off	Off	Off	Off	Off	Off	Off
1	2	On	Off	Off	Off	On	Off	Off	Off
1	3	Off	On	Off	Off	Off	On	Off	Off
1	4	On	On	Off	Off	On	On	Off	Off
1	5	Off	Off	On	Off	Off	Off	On	Off
1	6	On	Off	On	Off	On	Off	On	Off
1	7	Off	On	On	Off	Off	On	On	Off
2	1	On	On	On	Off	On	On	On	Off
2	3	Off	Off	Off	On	Off	Off	Off	On
2	5	On	Off	Off	On	On	Off	Off	On
3	1	Off	On	Off	On	Off	On	Off	On
3	2	On	On	Off	On	On	On	Off	On
3	4	Off	Off	On	On	Off	Off	On	On
4	1	On	Off	On	On	On	Off	On	On
4	3	Off	On	On	On	Off	On	On	On
Free Play		On	On	On	On	On	On	On	On

2. Dip Switch No. 2 (8P Dip Switch)

Number Of Spaceships

Number	SW1	SW2
* 3	Off	Off
4	On	Off
5	Off	On
256	On	On

Game Type

Style	SW3	Players
Table	Off	1 or 2 Players
Upright	On	Only 1 Player

Bonus Points

Bonus Points	SW4
50,000 Pts. and after every 70,000 Points	Off
*60,000 Pts. and after every 80,000 Points	On

2. Dip Switch No. 2 ,continues

Level of difficulty

Option	SW5	SW6	SW7
Very easy	off	off	off
Easy -1	on	off	off
" -2	off	on	off
" -3	on	on	off
Average	off	off	on
Difficult*	on	off	on
Very Difficult	off	on	on
Most Difficult	on	on	on

Audio Attraction

Sound Mode	SW8
NO sound in attract mode	off
Sound in attract mode	on*

3. Dip Switch No. 3

Music Mode	SW1
Music Off	Off
Music On	On *

* Denotes Normal Settings

INSTALLATION

Your game was shipped from the factory in ready-to-play condition. A brief inspection is suggested before the machine is removed from the carton. If there is damage to the shipping carton, contact the freight carrier for claim purposes. External damage could indicate possible damage to the cabinet and/or electronics components.

After the carton has been satisfactorily inspected, remove the machine from the shipping carton.

Examine the interior of the game for disconnected wires, cables, or harnesses. Make sure the electronic devices are securely mounted in their sockets, etc. Record the game serial number, since it will be required for reference and servicing.

ELECTRICAL REQUIREMENTS

Unless otherwise specified, this game is set to operate at 110 Volts A.C. (See Fig. 2 and 110/220 VAC conversion instructions.)

Power supply chassis schematic information and parts list are included in this manual.

110/220 VAC CONVERSION INSTRUCTIONS

This game contains a harness configuration which allows the machine to be operated from either a 110 VAC or 220 VAC, 50 H_z or 60 H_z power source. All games shipped from Centuri, Inc., are in the 110 VAC configuration. To change to the 220 VAC configuration follow the procedure below.

FIRST: Unplug the machine from the wall outlet to completely eliminate shock hazards.

SECOND: Remove the single 3 AMP slow-blow fuse found in the A.C. Distribution Bracket, and install two, 1.5 AMP slow-blow fuses. Next cut the #18 AWG. white jumper at both ends of the fuse holder, and replace the cover.

THIRD: On the game power transformer, locate the "orange" jumper plug which is marked, 110 VAC. Unplug the "orange" jumper, and plug in the "red" jumper marked 220 VAC.

To revert back to 110 VAC, replace the components originally removed from the Steps above.

***NOTE: The common side of the A.C. Line must not be fused in the 110 VAC configuration - Replace the #18 AWG., white jumper wire.

(Refer also to FIG. 1, 110/220 POWER INTERCONNECT DIAGRAM, #904-0004).

[illegible]

COLOR OF STRIPE

AF 17899B

ROUTINE MAINTENANCE & SERVICE

Because of the solid state electronic circuitry, this machine should require very little maintenance, and only occasional adjustments. However, it is necessary to take steps to insure this.

The volume control is located on the bottom side of the printed circuit board, farthest from the side of the cabinet, and can be accessed through the rear door.

The video monitor has been properly adjusted before shipping. Occasionally minor adjustments are necessary. Technical information, along with schematics, can be found in this manual. Adjustment controls for the monitor are located on the rear of the monitor.

"DO NOT MAKE ANY ADJUSTMENTS ON THIS MACHINE WHILE THE POWER IS ON!" This machine should only be adjusted by a "qualified" technician.

For Service Information, contact:

CENTURI, INC.

CUSTOMER SERVICE DEPARTMENT

#800-327-7710 (Outside the State of Fla.)

#305-556-5888 (In Florida)

POWER SUPPLY

The Computer Board in this game operates most efficiently and reliably when the power supply is set so the voltage on the Board is 5.0 Volts, ± 0.1 Volts. To check this, place a meter across 5 Volts, and ground, at the edge connector. If necessary, adjust the screwdriver control on the power supply, so the meter reads between 4.9 and 5.1 Volts.

CABINET FRONT VIEW

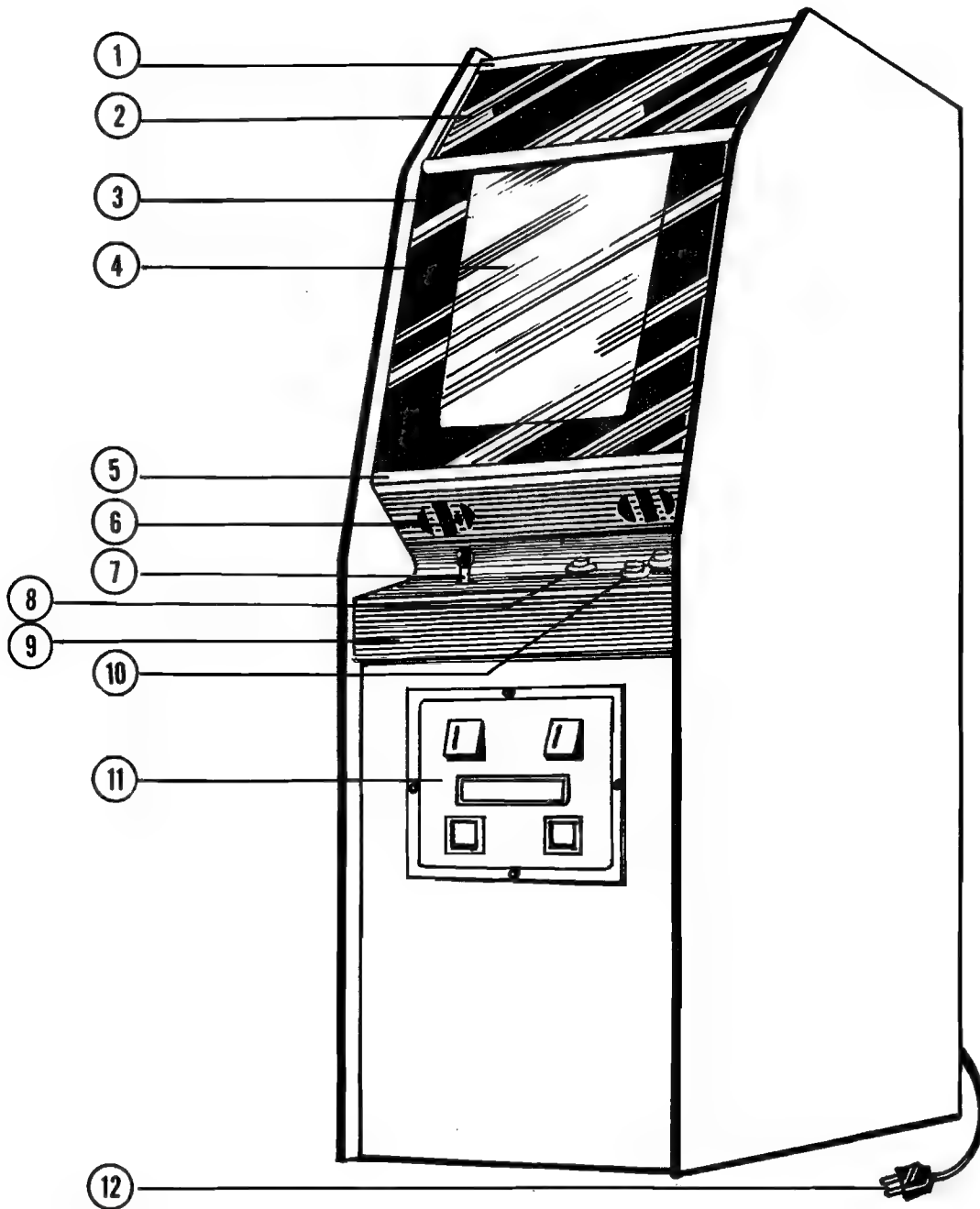
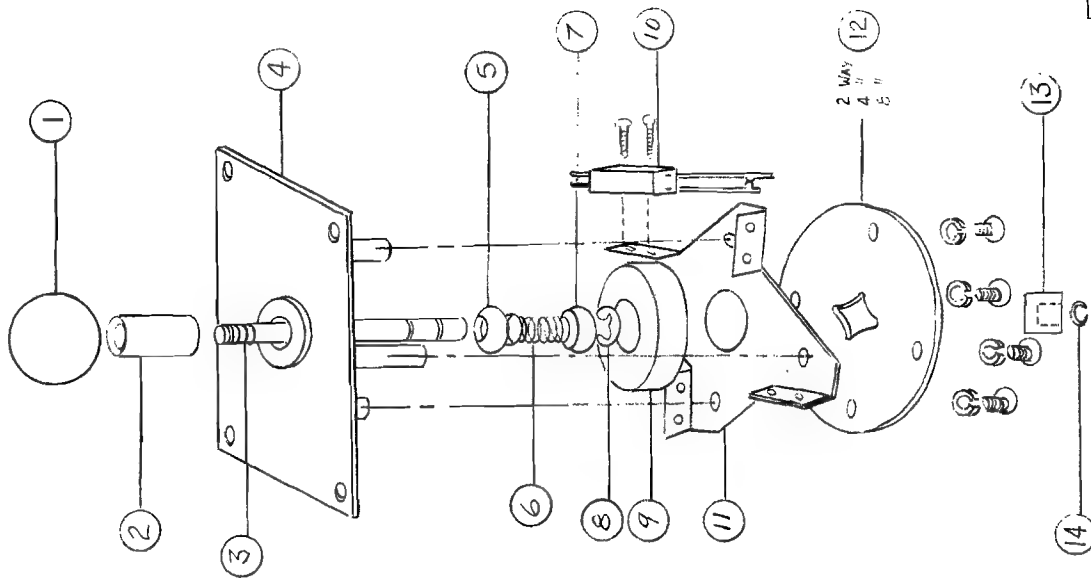


FIG. 2

CABINET FRONT VIEW

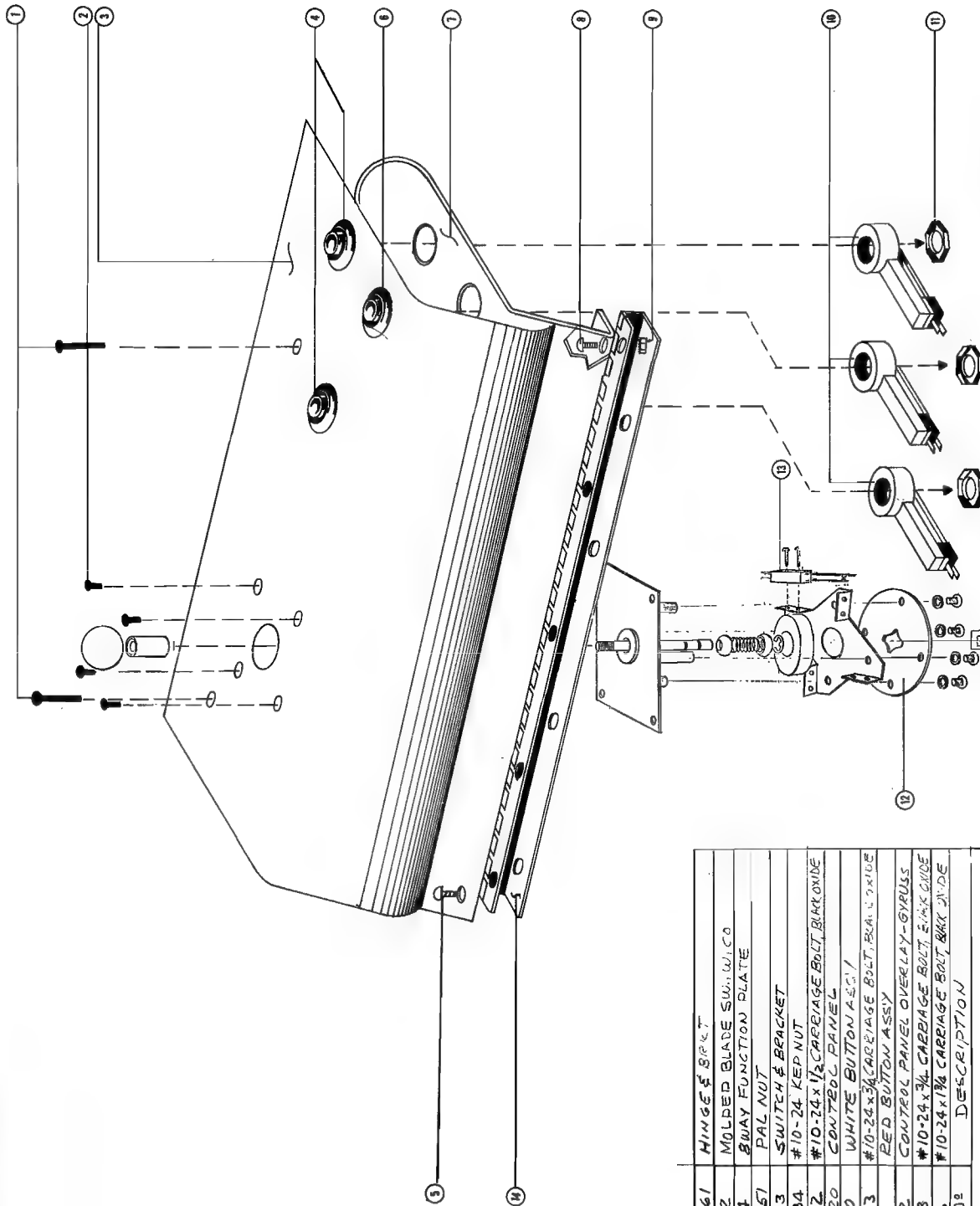
PARTS LIST

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	302-2705	Marquee Top Holding Bracket
2	802-3109	Marquee, Gyruss
3	804-3126	Monitor Top Graphic Bezel
4	605-0975	Viewing Glass, #2094
5	302-2704	Glass Holding Bracket
6	403-1171	Speaker, 8 ohm, 6 Watts
7	702-1197	Joystick Ass'y, 8 Way
8	701-1171	Player 1 Start Button/ Fire Button
9	609-3171	Control Deck W/Overlay
10	701-1170	Player 2 Start Button
11	009-4694	Coin Door
12	402-1511	Power Line Cord



AF 17899C

THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTUM, INC.



QTY	PART NO.	DESCRIPTION
14	1 306-2661	HINGE & BOLT
13	4 409-1182	MOLDED BLADE SW., W/CO
12	1 409-1194	2WAY FUNCTION PLATE
11	3 103-0957	PAL NUT
10	3 409-1163	SWITCH & BRACKET
9	115-2384	#10-24 KEP NUT
8	111-2322	#10-24 x 1/2 CARRIAGE BOLT, BLACK OXIDE
7	1 301-2520	CONTROL PANEL
6	1 701-1170	WHITE BUTTON ASSY
5	1 111-2323	#10-24 x 3/4 CARRIAGE BOLT, BLACK OXIDE
4	2 701-1171	RED BUTTON ASSY
3	1 801-3082	CONTROL PANEL OVERLAY-GRUSS
2	4 111-2323	#10-24 x 3/4 CARRIAGE BOLT, BLACK OXIDE
1	2 111-3326	#10-24 x 1 1/4 CARRIAGE BOLT, BLACK OXIDE
14	QTY	PART NO.

BILL OF MATERIALS

EXPLODED VIEW OF CONTROL PANEL ASS'Y.

TOLERANCES Unless Otherwise Specified		NAME		EXPLODED VIEW CONTROL PANEL	
FRACTIONS	2 1/2	DATE	H/12/63		
DECIMALS	2 018	BY	J/12/63		
ANGLES	2 008	REV.	1		
HOLE	2 001	SCALE	1/2"		
ANGLE	2 012	PART NO.	111-2326		
BUTT WELD	2 2	REV.	1		
DC. APP'D		PROD. APP'D		QTY.	
CENTUM		H/12/63		ASSEMBLY NO.	
H/12/63		H/12/63		H/12/63	

2800-0 FRONT PLATE EXPLODED VIEW

25¢ COIN

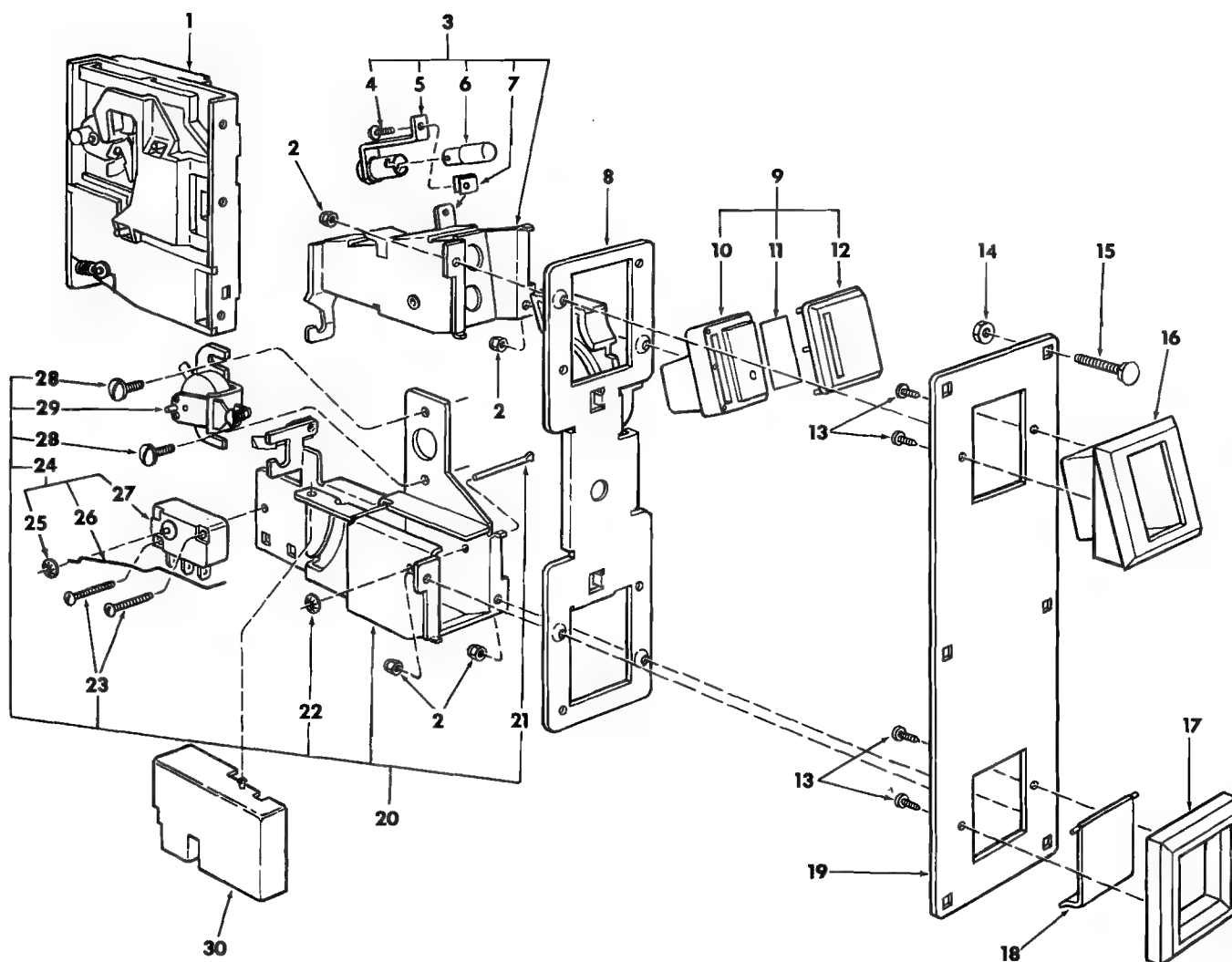


FIGURE 5

Index No.	Part No.	Description	Index No.	Part No.	Description
1	5301-10	25¢ Coin Acceptor	16	904588	Coin Inlet Housing
2	400-4	#4-40 Self Locking Nut	17	904590	Coin Return Cover
3	404351	Coin Inlet Chute Assembly	18	904599	Coin Return Door
4	110-4-6	4 x 3/8 Screw	19	404463	Frontplate Assembly, 3-1/8" x 9-1/4"
5	904717	Lamp Socket	20	404350	Coin Return Chute Assembly
6	904716	#47 Lamp (6.3 Volt)	21	905115	Bar
7	904712	Fastener	22	904936	Keeper
8	404484	Inner Panel/Lever Assembly	23	100-4-12	4-40 x 3/4 Screw
9	404348	Coin Return Button Assembly	24	404353	Switch & Wire Assembly
10	904591	Coin Return Button	25	900651	Retainer
11	904703	25¢ Price Decal	26	904710-1	Switch Wire-Silver
12	904589-2	Reject Cover Button (25¢)	27	904845	Switch
13	345-4-5	#4 x 5/16 Pan Head Screw	28	100-6-3	6-32 x 3/16 Screw
14	406-10	#10-24 Hex Nut	29	404354	12 Volt Crem Assembly
15	905022	#10-24 x 1-1/8 Carriage Bolt	30	904762	Switch Cover
		(Mounting Hardware)			
		(Mounting Hardware)			

2800-0 FRONT PLATE EXPLODED VIEW

(FIGURE 5)

PARTS LIST

<u>NO.</u>	<u>CENTURI P/N:</u>	<u>MANUFACTURING P/N:</u>	<u>DESCRIPTION:</u>
1.	606-0966	5031-10	25¢ COIN ACCEPTOR
5.	606-0987	904717	LAMP SOCKET
6.	606-0988	904716	#47 LAMP (6.3 VOLT)
8.	606-0990	404464	INNER PANEL/LEVER ASS'Y.
10.	606-0967	904591	COIN RETURN BUTTON
11.	606-0968	904703	25¢ PRICE DECAL
12.	606-0969	904589-2	REJECT COVER BUTTON (25¢)
16.	606-0971	904588	COIN INLET HOUSING
17.	606-0975	904590	COIN RETURN BEZEL
18.	606-0972	904599	COIN RETURN DOOR
19.	606-0991	404463	FRONTPLATE ASS'Y. (3 ¹ / ₈ "x9 ¹ / ₄ ")
21.	606-0986	905115	BAR
25.	606-0963	900651	RETAINER
26.	606-0964	904710-1	SWITCH-WIRE, SILVER
27.	409-1165	904845	SWITCH
29.	606-0983	404354	12 VOLT C.R.E.M. ASS'Y.
30.	606-0982	904762	SWITCH COVER
31.	606-1001	404604	COIN RETURN BUTTON ASS'Y.
32.	606-1000	905425-4	COIN INLET HOUSING

2800 SERIES COIN DOOR EXPLODED VIEW

25¢ U.S. COIN

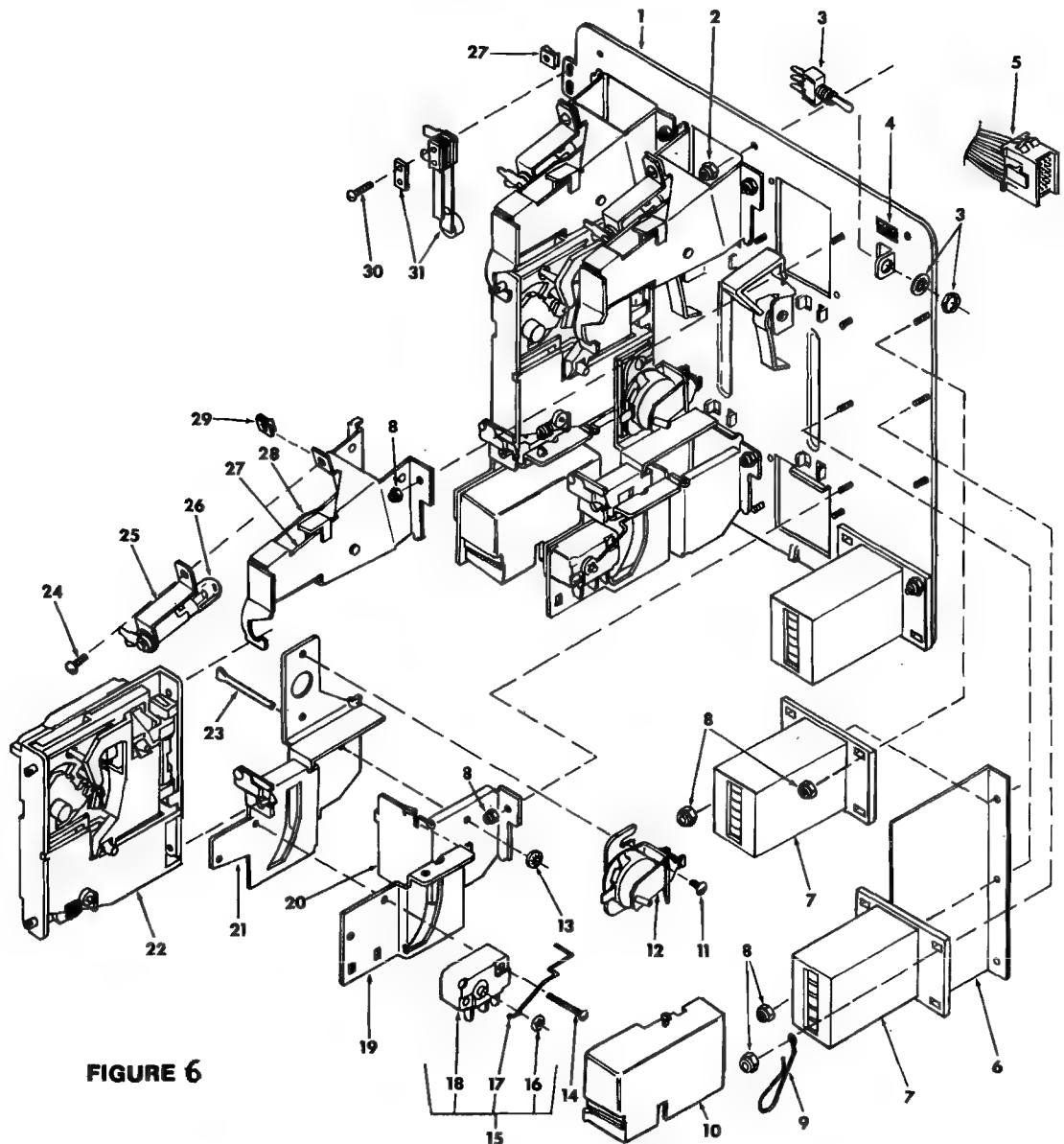


FIGURE 6

Index No.	Part No.	Description	Index No.	Part No.	Description
1	404429	Inner Panel With Levers Sub-Assembly	17	904710-1	Silver Switch Wire — for U.S. 25¢ Coin
2	400-8	Nut	18	904845	Switch
3	904782	Toggle Switch	19	904701	Coin Chute
4	904706	Test Switch Decal	20	904598	Coin Return Box
5		Custom Harness Assembly	21	404428	Switch and C.R.E.M. Coil Bracket Assembly
6	904822	Insulation	22	5301-10	25¢ Acceptor
7	404352	Coin Counter Assembly (6 Volt D.C.)	23	905115	Bar
8	400-4	Nut	24	110-4-6	Screw
9	904722	Wire Key Holder	25	904717	Miniature Bayonet-Base Lamp Socket
10	904762	Switch Cover	26	904716	#47 Lamp (6.3 Volt)
11	100-6-3	Screw	27	404418	Coin Inlet Chute Sub-Assembly
12	404354	C.R.E.M. Coil Assembly. 12 Volts D.C.	28	904594	Right Half of Coin Inlet Chute
13	904936	Keeper	29	904712	"U"-Type Fastener
14	100-4-12	Screw	30	116-4-8	Screw
15	404353	Coin Switch Assembly for U.S. 25¢ Coin	31	904704	Slam Switch Assembly
16	900651	Retainer			

2800 SERIES COIN DOOR EXPLODED VIEW

25¢ U.S. COIN

(FIGURE 6)

PARTS LIST

<u>NO.</u>	<u>CENTURI P/N:</u>	<u>MANUFACTURING P/N:</u>	<u>DESCRIPTION:</u>
1.	606-0978	404429	INNER PANEL w/LEVERS SUBASS'Y.
3.	409-1166	904782	TOGGLE SWITCH
4.	606-0979	904706	TEST SWITCH DECAL
5.	364-62-1000A	-----	CUSTOM HARNESS ASS'Y.
6.	606-0980	904822	INSULATION
7.	419-1662	404352	COIN COUNTER ASS'Y.
9.	606-0981	904722	WIRE KEY HOLDER
10.	606-0982	904762	SWITCH COVER
12.	606-0983	404354	C.R.E.M. COIL ASS'Y. (12 VOLT D.C.)
17.	606-0964	904710-1	SILVER SWITCH WIRE - FOR 25¢ U.S. COIN
18.	409-1165	904845	SWITCH
19.	606-0965	904701	COIN CHUTE
20.	606-0984	904598	COIN RETURN BOX
21.	606-0985	404428	SWITCH & C.R.E.M. COIL BRACKET ASS'Y.
22.	606-0966	5301-10	25¢ ACCEPTOR
23.	606-0986	905115	BAR
25.	606-0987	904717	MINIATURE BAYONET-BASE LAMP SOCKET
26.	606-0988	904716	#47 LAMP (6.3 VOLTS)
27.	606-0989	404418	COIN INLET CHUTE-SUBASS'Y.
31.	409-1167	904707	SLAM SWITCH ASSEMBLY

2800 SERIES COIN DOOR EXPLODED VIEW

25¢ U.S. COIN

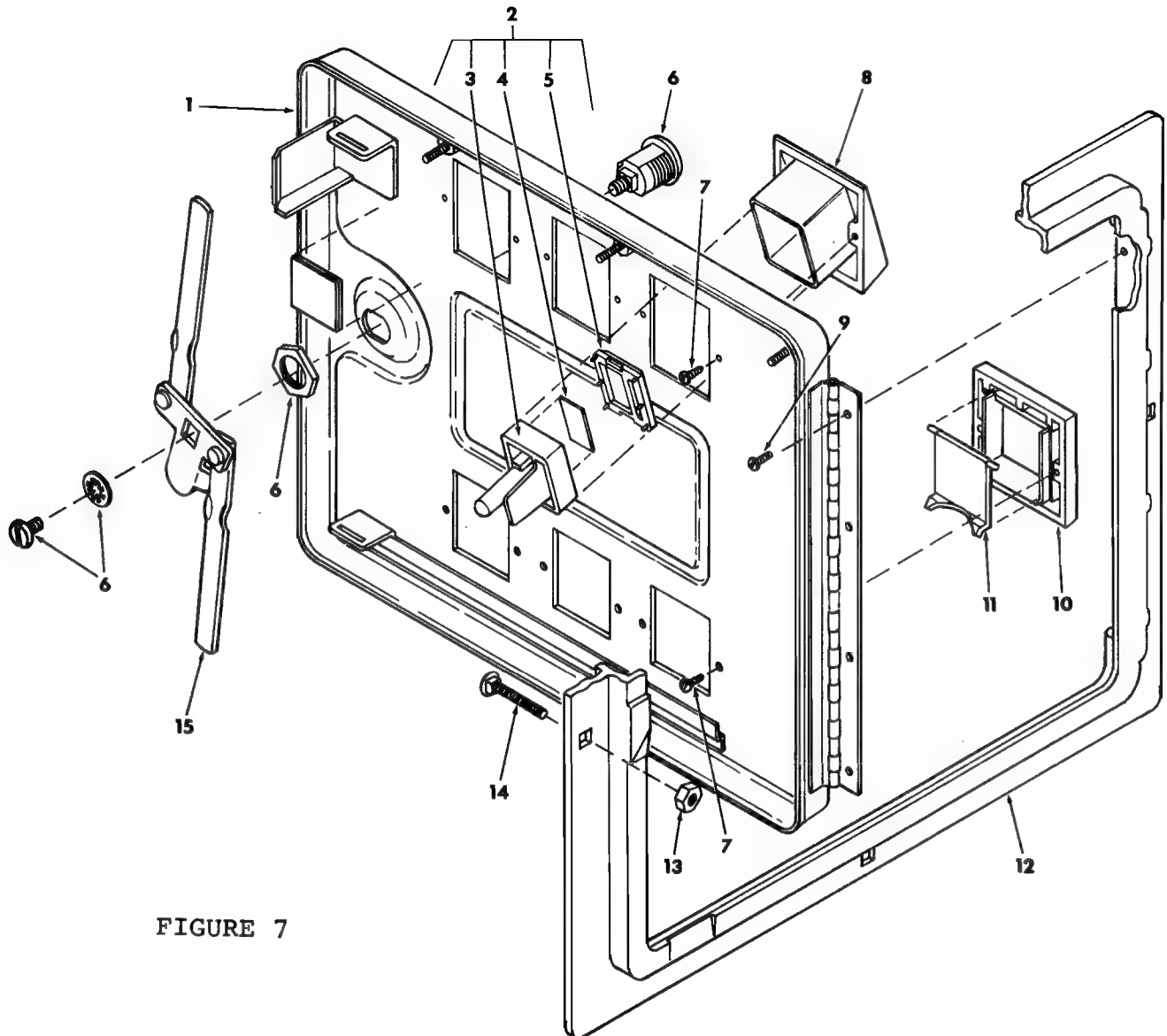


FIGURE 7

Index No.	Part No.	Description	Index No.	Part No.	Description
1	404341	Coin Door Only (2 Coin)	7	345-4-5	Screw
	404341-1	Coin Door Only (3 Coin)	8	904588	Coin Button Housing
2	404348-1	Coin Return Button Assembly for U.S. 25¢ Coin	9	325-4-4	Screw
3	904591	Coin Return Button	10	904590	Coin Return Bezel
4	904703	U.S. 25¢ Price Decal	11	904599	Coin Return Cover
5	904589-2	Coin Return Button Cover for U.S. 25¢ Coin	12	904581	Coin Door Frame, 11-5/8" x 13-3/8" Mounts in a 10-3/8" x 12-3/16" Opening
6	904707-1	Lock Assembly	13	406-416	Hex Nut
			14	904734	Carriage Bolt
			15	404357	Locking Arm Assembly

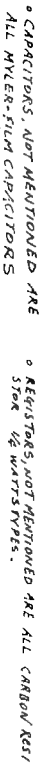
2800 SERIES COIN DOOR EXPLODED VIEW

25¢ U.S. COIN

(FIGURE 7)

PARTS LIST

<u>NO.</u>	<u>CENTURI P/N:</u>	<u>MANUFACTURING P/N:</u>	<u>DESCRIPTION:</u>
1.	606-0974	404341	COIN DOOR ONLY (2 COIN)
2.	606-0976	404348-1	COIN DOOR BUTTON ASS'Y. FOR U.S. 25¢ COIN
3.	606-0967	904591	COIN RETURN BUTTON
4.	606-0968	904703	U.S. 25¢ PRICE DECAL
5.	606-0969	904589-2	COIN RETURN BUTTON COVER
6.	606-0970	904707-1	LOCK ASSEMBLY w/KEYS
8.	606-0971	904588	COIN BUTTON HOUSING (INLET HOUSING)
10.	606-0975	904590	COIN RETURN BEZEL
11.	606-0972	904599	COIN RETURN COVER
12.	606-0973	904581	COIN DOOR FRAME (11 5/8"x12 3/8")
15.	606-0977	404357	LOCKING ARM ASSEMBLY
16.	606-1001	404604	COIN RETURN BUTTON ASS'Y.
17.	606-1000	905425-4	COIN INLET HOUSING

21

Power Supply PSR-703AE
PARTS LIST (414-2020)

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
D1	Bridge Stack, RB-40, 600V	1
D4,D5	Fast Recovery Diode, 1GH62	2
D2,D3,D7, D8,D9,D10	Switching Diode, 1S1554	6
D11	Fast Recovery Diode, S5KC20H	1
D12,D13	Fast Recovery Diode, 10DF1	2
D16	Schotky Barrier Diode, C8P030	1
ZD1	Zener Diode, 05Z, 5.6V, 500mw	1
Q1,Q2	Power Transistor, 2SC2553	2
Q3	Power Transistor, 2SC2831	1
Q4,Q5	Transistor, 2SA564R	2
Q6,Q7	Transistor, 2SC828R	2
IC 1	Switching Control, UPC494C	1
IC 2	Regulator IC, 7805 (1A)	1
T1	Power Transformer, SM2335	1
T2,T3	Driver Transformer, SM2215B	2
T4	Power Transformer (Sub) SM2376	1
CH1	Choke Transformer, SM2219	1
CH2	Choke Transformer, SM2376B	1
CH4	Choke Transformer, SM2366	1
L1	AC Line Filter, ELF-18D-112	1
TH1	Power Thermistor, TD18-010	1
C2,C3	Ceramic Capacitor, 2200pf, AC400V	2
C1	Capacitor, Metalized, 0.033mf, 600V	1
C6	" " , 0.47mf, 50V	1
C15	" , Mylar, 0.001mf, 50V	1
C9,C13,C34, C35,C37	" " , 0.01mf	5
C12	" " , 0.0047mf	1
C31	" " , 0.1mf	1
C18	Capacitor, Ceramic, 50pf, 50V	1
C7	" " , 330pf, 1kv	1
C16,C28	" " , 0.01mf, 16V	2
C20,C23	" " , 0.1mf, 16V	2
C14	Capacitor,Electrolytic, 4.7mf, 25V	1
C10	" " , 10mf, 16V	1
C11	" " , 100mf, 16V	1
C21	" " , 220 mf, 35V	1
C22	" " , 470mf, 16V	1
C17,C19	" " , 470mf, 25V	2
C29,C30	" " , 2200mf, 10V	2
C4, C5	" " , 220mf, 180V	2
R31	Resistor,Cement, 270 ohm, 5W	1
R34	" , Oxide Metal Film, 33 ohm, 3W	1
R9	" " " , 470 ohm,2W	1
R3	" " " , 100 ohm,2W	1

POWER SUPPLY PSR-703AE
PART LIST (414-2020)

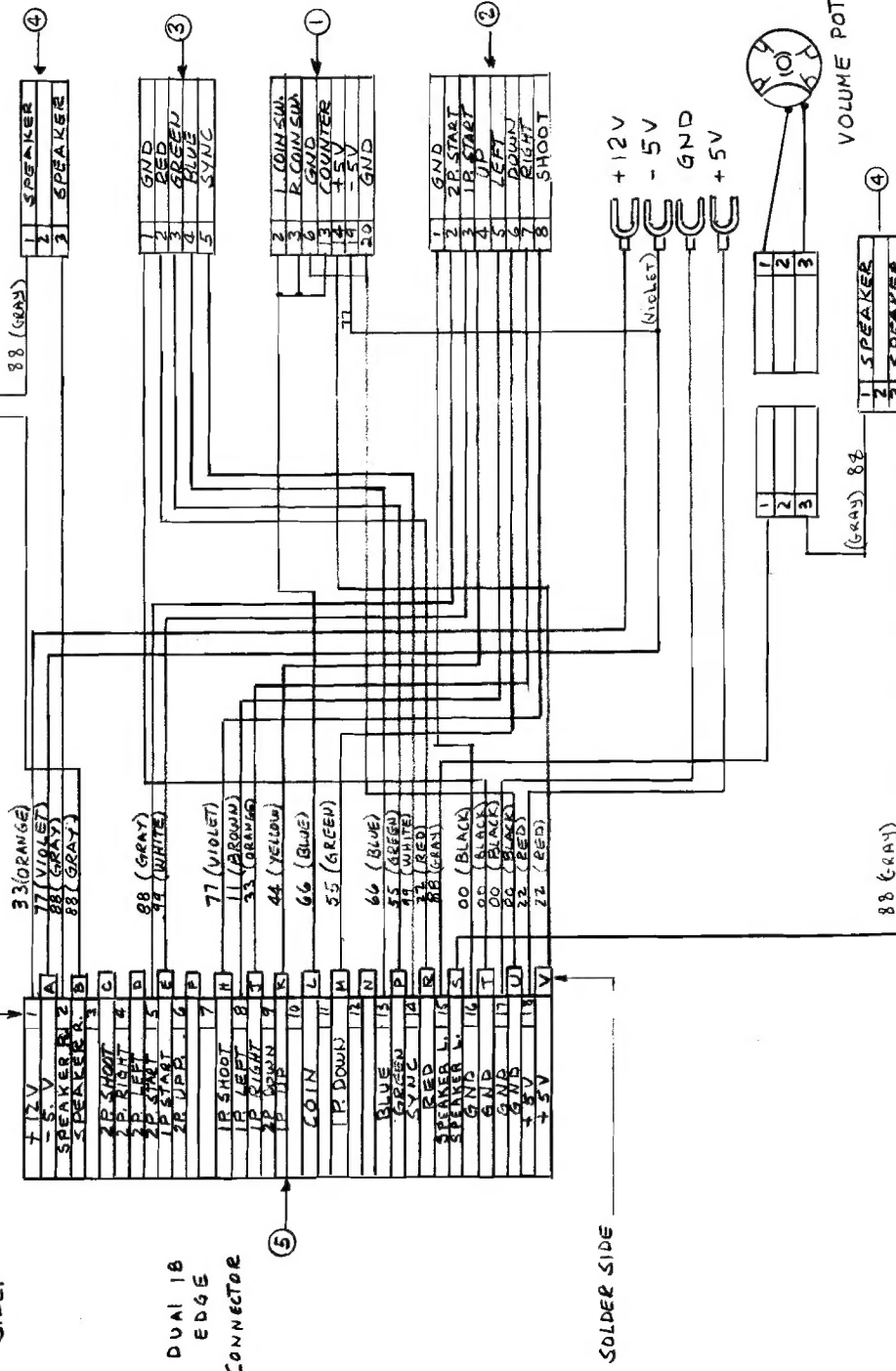
<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
R36,R37,R39	Resistor, Carbon, 5.1 ohm, 1/2 W	3
R4,R5	" " , 12 ohm, 1/2 W	2
R6,R7	" " , 22 ohm, 1/2 W	2
R1,R2	" " , 150K ohm, 1/2 W	2
R8	" " , 330K ohm, 1/2 W	1
R12	" " , 150 ohm, 1/4 W	1
R10	" " , 1K ohm, 1/4 W	1
R11	" " , 10 ohm, 1/4 W	1
R40	" " , 3.9K ohm, 1/4 W	1
R35	" " , 5.1K ohm, 1/4 W	1
R18,R27	" " , 100 ohm, 1/4 W	2
R30	" " , 180 ohm, 1/4 W	1
R22	" " , 220 ohm, 1/4 W	1
R32	" " , 1K ohm, 1/4 W	1
R26	" " , 1.8K ohm, 1/4 W	1
R12,R14	" " , 5.1K ohm, 1/4 W	2
R28	" " , 10K ohm, 1/4 W	1
R29	" " , 15K ohm, 1/4 W	1
R23	" " , 20K ohm, 1/4 W	1
R19	" " , 6.8K ohm, 1/4 W	1
R15,R16,R17,R33	" " , 100K ohm, 1/4 W	4
R21	" " , 150K ohm, 1/4 W	1
R25	" " , 270K ohm, 1/4 W	1
R20	" " , 390 ohm, 1/4 W	1
VR1	Semi-fixed resistor, GFD6-B 3K	1
RS1	Manganese Metal Wire, A-2145	1
RS2	Manganese Metal Wire, 1.0 Ø x 55m/m	1
F1	Fuse, 3 amp.	1
	Fuse Holder, F-207	1

THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTURI, INC.



VOLUME POT.

COMPONENTS
SIDE.



IT QTY	PART NO	DESCRIPTION
22	18	417-1601 TY-WRAPS 4"
21	80	402-1410 " " WHITE "
20	80	402-1498 " " GRAY "
19	103	402-1487 " " VIOLET "
18	108	402-1476 " " BLUE "
17	85	402-1465 " " GREEN "
16	48	402-1454 " " YELLOW "
15	63	402-1443 " " ORANGE "
14	81	402-1432 " " RED "
13	48	402-1421 " " BROWN "
12	140	402-1509 " " BLACK 22AWG
11	21	402-1409 " " BLACK "
10	21	402-1332 INSUL WIRE RED 18AWG
9	24	401-1261 CRIMP TEEN (MOLEX 08-03-0303)
8	7	401-1234 FEMALE PIN (35065-1)
7	21	401-1223 FEMALE PIN (02-01-1776)
6	4	401-1246 INSULATED OPEN LUG
5	1	401-1247 DUAL 18 EDGE CONN (JAN-85-0303)
4	4	401-1225 3 PIN RECEPT (MOLEX 03-01-108)
3	1	401-1231 6 PIN RECEPT (02-08-1061)
2	1	401-1232 12 PIN RECEPT (03-08-1185)
1	1	401-1233 24 PIN RECEPT (AMP 332246-4)

VOLUME POT.

DESCRIPTION

TY-WRAPS 4"

" " WHITE "

" " GRAY "

" " VIOLET "

" " BLUE "

" " GREEN "

" " YELLOW "

" " ORANGE "

" " RED "

" " BROWN "

" " BLACK 22AWG

" " BLACK "

INSUL WIRE RED 18AWG

CRIMP TEEN (MOLEX 08-03-0303)

FEMALE PIN (35065-1)

FEMALE PIN (02-01-1776)

INSULATED OPEN LUG

DUAL 18 EDGE CONN (JAN-85-0303)

3 PIN RECEPT (MOLEX 03-01-108)

6 PIN RECEPT (02-08-1061)

12 PIN RECEPT (03-08-1185)

24 PIN RECEPT (AMP 332246-4)

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FEMALE PIN (02-01-1776)

INSULATED OPEN LUG

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" " YELLOW "

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" " BLACK 22AWG

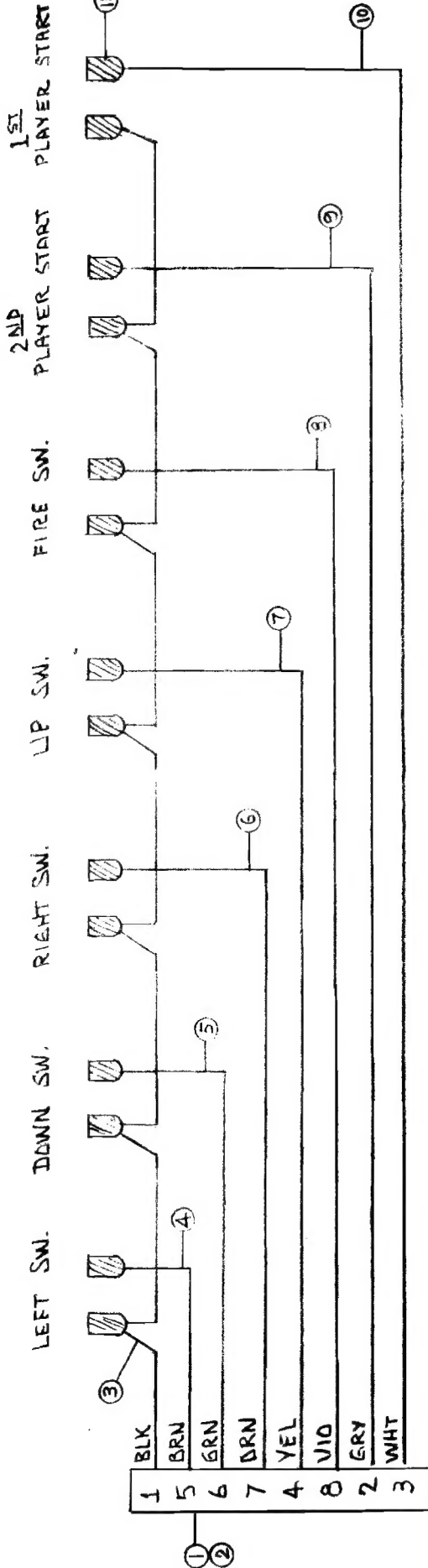
" " BLACK "

INSUL WIRE RED 18AWG

CRIMP TEEN (MOLEX 08-03-0303)

FEMALE PIN (35065-1)

FEMALE PIN (02-01-1776)

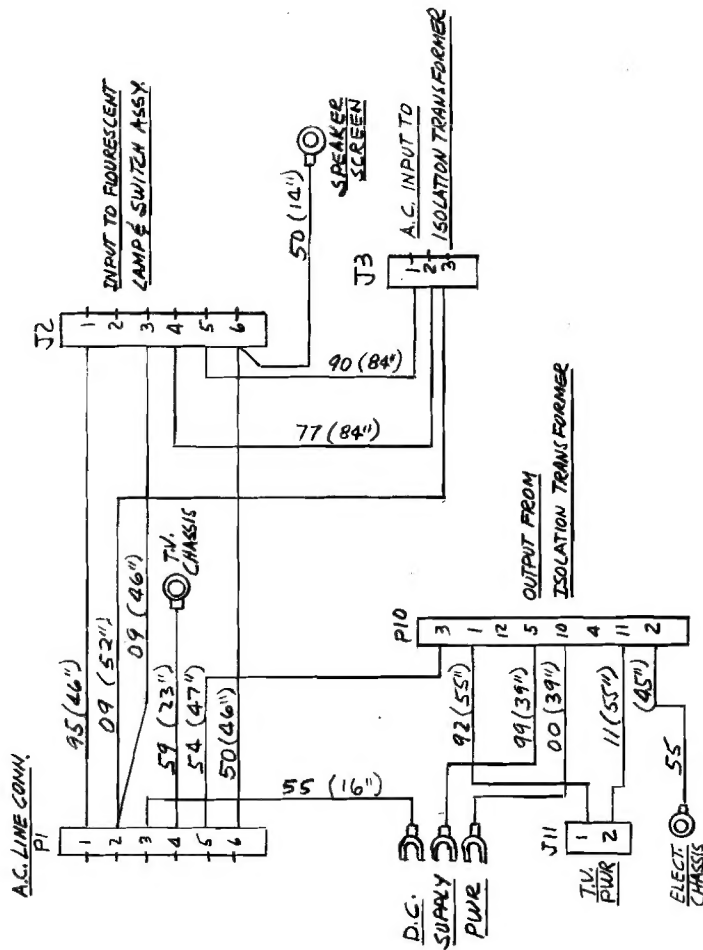


ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
6	24"	402-1443	22 AWG ORANGE STRANDED WIRE	12	A/R	A17-1601	4" TIE WRAP
5	24"	402-1465	22 AWG GREEN STRANDED WIRE	11	14	401-1302	Q-95 ETC 3/16" PUSH ON TERMINAL
4	24"	402-1421	22 AWG BROWN STRANDED WIRE	10	38"	402-1410	22 AWG WHITE STRANDED WIRE
3	87"	402-1509	22 AWG BLACK STRANDED WIRE	9	35"	402-1498	22 AWG GRAY STRANDED WIRE
2	8	401-1222	02-09-2116 MOLEX MALE PIN	8	33"	402-1487	22 AWG VIOLET STRANDED WIRE
1	1	401-1230	03-09-2122 MOLEX 12 PIN PLUG	7	31"	402-1454	22 AWG YELLOW STRANDED WIRE
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION

BILL OF MATERIALS

CENTURI INC.		HIALEAH, FLORIDA 33014	
NAME CONTROL PANEL HARNESS			
MATERIALS		HEAT TREAT. FINISH	
DWN. APP. <i>[Signature]</i>	DATE 5-9-83	SCALE <i>X</i>	PART NO. 008-4878
REV. LET.	ECN NO.	REVISION	BY
TOLERANCES		Unless Otherwise Specified	
FRACTIONS ± 1/32		DECIMALS 2 PL ± .015	
DECIMALS 3 PL ± .005		HOLES ± .003	
ANGLES ± 1/2°		SHT. MET BENDS ± 2°	
QC. APV'D		PROD. APV'D	
QTY.		ASSEMBLY NO	

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ITEM	QTY	PART NO	DESCRIPTION
22	39	417-1601	4" TY-WRAP
21	55"	402-1402	WHITE/RED STRIPE #18 AWG.
20	55"	402-1321	BROWN WIRE #18 AWG.
19	46"	402-1405	WHITE/GREEN STRIPE #18 AWG.
18	23"	402-1369	GREEN/WHITE STRIPE #18 AWG.
17	47"	402-1364	GREEN/YELLOW STRIPE #18 AWG.
16	60"	402-1360	GREEN/BLACK STRIPE #18 AWG.
15	98"	402-1319	BLACK/WHITE STRIPE #18 AWG.
14	84"	402-1400	WHITE/BLACK STRIPE #18 AWG.
13	84"	402-1387	VIOLET WIRE #18 AWG.
12	61"	402-1365	GREEN WIRE #18 AWG.
11	39"	402-1310	WHITE WIRE #18 AWG.
10	39"	402-1409	BLACK WIRE #18 AWG.
9	1	401-1225	3 PIN REC.P, MOLEX
8	10	401-1243	FEMALE PIN, MOLEX
7	12	401-1242	MALE PIN, MOLEX
6	3	401-1246	OPEN LOG 16-22 AWG, ETC.
5	3	401-1201	RING LOG, HOLLINS.
4	1	401-1268	2 PIN REC.P, MOLEX
3	1	401-1229	6 PIN PLUG, MOLEX
2	1	401-1231	6 PIN REC.P, MOLEX
1	1	401-1230	12 PIN PLUG, MOLEX
BILL OF MATERIAL			

TOLERANCES Unless Otherwise Specified		FRACTIONS ± 1/32	
DECIMALS 2 PL ± .015		DECIMALS 3 PL ± .005	
ANGLES ± .001		Holes ± 1/2	
SHT. MET BENDS ± 2			
REV. LET.	ECN NO.	REVISION	BY
NAME CENTURI		HIALEAH, FLORIDA 33014	
CABINET POWER HARNESS		MATERIALS	
DATE 5-6-83	SCALE 1/2"	HEAT TREAT.	FINISH
DWN AAH	REV. 008-4901	PART NO.	REV.



Centuri, Inc. • 245 W. 74th Place • Hialeah, Florida 33014
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